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Research Article

A study of butterfly diversity in two selected sites in Dharashiv district (M. S) India

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Abstract

The objective of the present survey is focussed on the butterfly diversity in the study area. Butterflies are most important bioindicators which should be protected to conserve the biodiversity. The survey was conducted to prepare a preliminary checklist of butterflies in the district Dharashiv, Maharashtra state. Considering the diversity of Butterflies, Regular survey were conducted by visual observation. Total 06 butterfly species and total 86 butterflies were recorded from family Nymphalidae and Pieridae. This study will enlighten the information regarding the diversity of butterflies and forms a baseline data for future butterfly studies.

INTRODUCTION

The butterflies are the most attractive elements of the biological diversity of the universe (Losey and Vaughan, 2006). They are beautifully coloured, ecologically important insects belong to order Lepidoptera of class insecta. Approximately, 17,200 species of butterflies throughout the world and 1,504 species from the Indian subcontinent are renowned species among the insects (Ayesha et.al., 2022). Butterflies play an important role in maintaining the food chain and in pollination (Dwari et al., 2017). The presence of these creatures indicates that the ecosystem is in good condition. Butterflies are good biological indicators of habitat and environmental health (Larsen, 1988; Kocher and Williams, 2000). Even a small change in their habitat also disturbed their occurrence, and hence, these insects work as ecological indicators (Chakravarthy et al., 1997).

The aim of current study is to find out the current status of butterflies in Khanapur Talav and Hatlaidevi devi Temple.(Latitude -18.178719^0, Longitude- 76.005516^0.district Dharashiv, Maharashtra state and to prepare a checklist of butterflies of this region for the purpose of conservation of native species present in this area.

MATERIALS AND METHODS.

Study area:

The present study was carried out in Dharashiv Maharashtra state. Two sampling sites were selected for the present study viz. Khanapur Talav and Hatlai Devi Temple.(Latitude - 18.1787190, Longitude- 76.0055160). The tree plantation, ornamental plants, grasses and wild plant varieties spread all over area. It has created a very good habitat and source of attraction for many butterflies.

Survey Method.

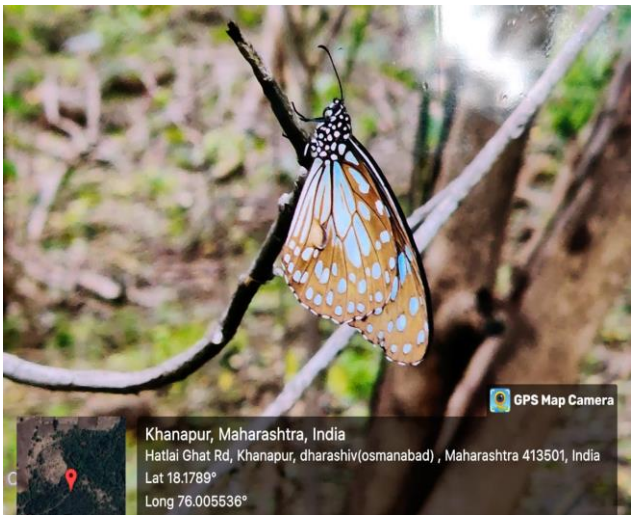
The field surveys on butterflies were carried out in the study area two times a week for the period of one month June 2023 to July 2023. Butterflies were accessed in the study area from 9 am to 11am in the morning by random observations during walking through selected area Viz. Khanapur Talav and Hatlai Devi Temple, Dharashiv, Maharashtra state. Sites based on habitats present in the study area.

In the site, photographs of the butterflies were taken with the aid of mobile camera One Plus 70 for the identification purpose .

Identifications of butterflies.

The photographs of butterflies were used for the butterfly species identification. Colour patterns, sizes and shapes as well as their designs were considered in identification of the species of butterfly with the help of entomologist expert and relevant available literature as well as photographs described by (Gey et al, 1992), (Haribal,1992), (Gunanthilagaraj et al, 1998), (Kunte, 2000) and internet references. All scientific names follow (Varshney, 1979) and classifications with common English names are after (Wynter-Blyth, 1957).

RESULTS AND DISCUSSION.



Checklist of the species of butterfly in the study area.

The checklist of the species of butterfly observed in the study area (Khanapur Talav and Hatlai Devi Temple) is presented in Table 1.

The present survey indicates that the family Nymphalidae has a total of 61butterflies viz. Tirumala limniace (13), Euploea midamus(20), Hypolimnas misippus (09), Hypolimnas bolina (11) and Danaus genutia (08) butterfly species were observed and family Pieridae has a total (25) butterflies was observed. A similar survey was carried out by Ganvir1 and Khaparde (2018) studied and concluded that butterfly diversity around the agricultural field and prepared a checklist in the study site. Family-Nymphalidae carries the maximum number of species 25 (36.24%) than remaining families.

Table 1: Checklist of the butterflies recorded in the study area of Dharashiv.

Sr.No	Common Name	Scientific Name	Family	Number of Individuals		Total
				Site A	Site B	
1	Blue tiger	*Tirumala limniace (Cramer, 1775)*	Nymphalidae	10	03	13
2	*Blue-spotted crow*	*Euploea midamus (Linnaeus,1758*	*Nymphalidae*	13	07	20
3	Danaid eggfly	*Hypolimnas misippus (Linnaeus,1764)*	Nymphalidae	04	05	09
4	Great eggfly	*Hypolimnas bolina (Linnaeus, 1758)*	Nymphalidae	05	06	11
5	Stripped tiger	*Danaus genutia, (Cramer, 1779)*	Nymphalidae	04	04	08
6	Common Grass Yellow	*Eurema hecabe (Linnaeus, 1758)*	Pieridae	11	14	25
		Total		47	39	86

Site A: Khanapur Talav, **Site B**: Hatlai Devi Temple

Total of 69 species of butterflies were recorded belonging to 47 genera and 5 families. Family Nymphalidae was the largest family comprised of maximum number of species 22 (36.24%). Earlier was documented the most dominant family was Nymphalidae followed by Lycanidae, Pieridae, Hespiriidae and Papillionidae. (Ganvir et.al., 2017), (Kurve et.al., 2013),(Dwari and Mondal, 2015). Similar studies reported by Singh and Chib (2014) on a preliminary checklist of butterflies that recorded 125 species of butterfly from 78 genera belong to 5 families. Nymphalidae family was described as the highest in the study area. Also this finding is in close agreement with the findings of Charn (2015) who listed 54 species of butterfly belong to 7 families from the forest strip of Punjab. Nymphalidae family indicated as dominant during the study period with the highest number of the species of butterfly In addition, the result is supported by Bubesh et al. (2012) who observed 50 species of butterfly belong to 5 families. Nymphalidae and Lycaenidae families were the highest number of the species of butterfly in the study area.

The reasons for butterfly diversity in Dharashiv area are favourable climatic conditions, availability of more plants and vegetation for nectaring. This survey is quite helpful for the documentation and conservation of biological diversity

CONCLUSION

The present survey indicates that a total of 06 species of butterflies were observed in the family Nymphalidae and Pieridae. Therefore, it is concluded that the study area Khanapur Talav and Hatlai Devi Temple, Dharashiv Maharashtra state is rich in butterfly diversity.The study area provides favourable ecological conditions and habitat for butterflies. Hence, there is a scope for documentation and systematic classification of butterfly species for detailed future study.

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